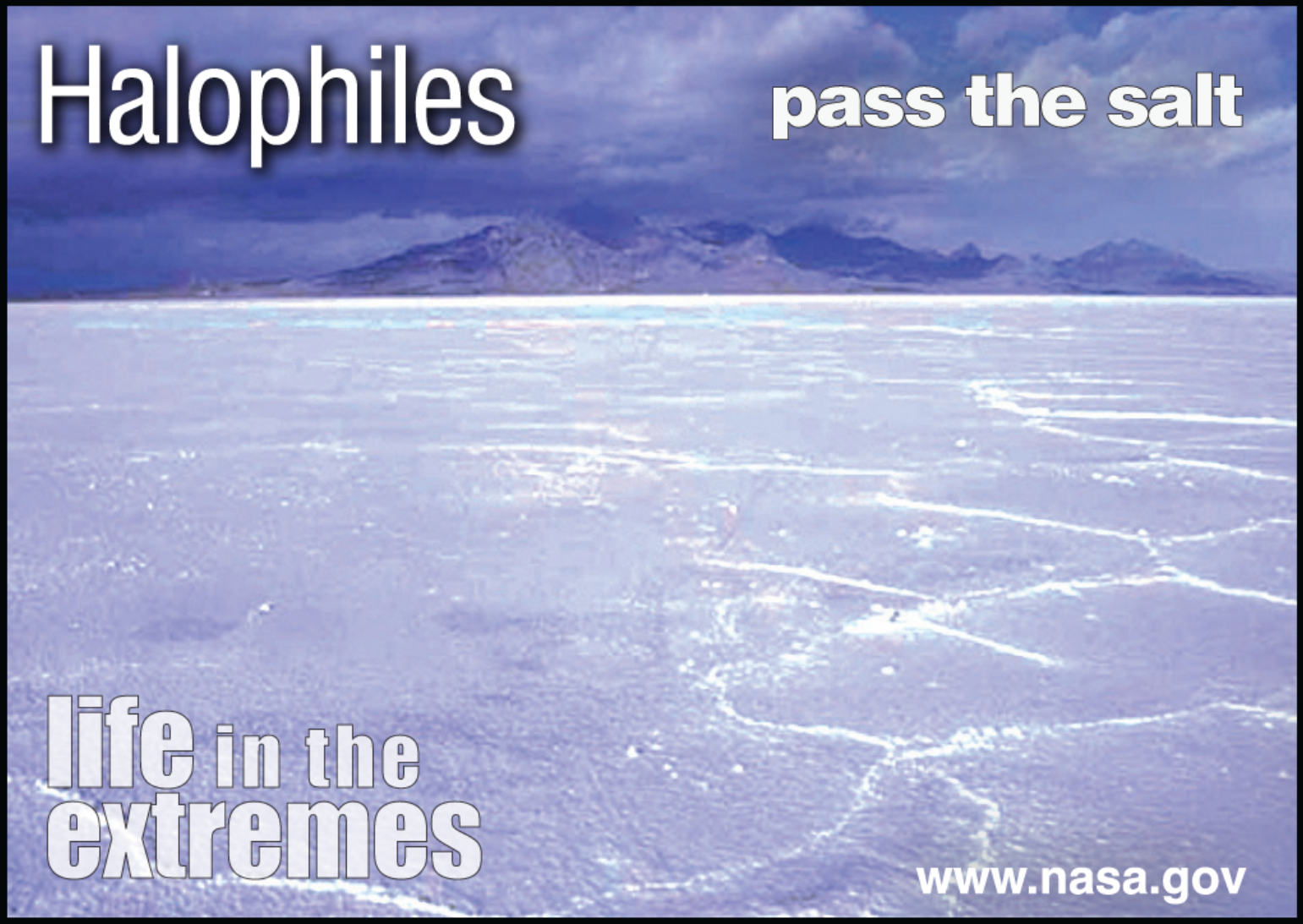
Halophiles
pass the salt
life in the extremes
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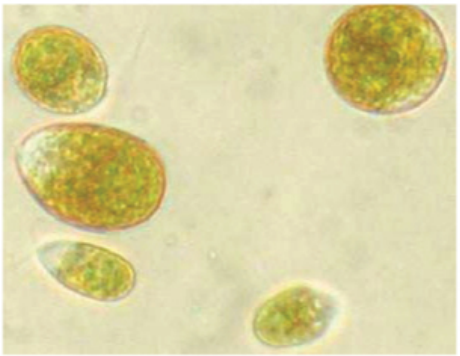
National Aeronautics and Space Administration



Dunaliella salina is a kind of algae that lives in salt ponds. To protect itself from sunlight, *Dunaliella* concentrates beta-carotene in its cell wall, giving it an orange or pinkish color.

EXTREME ABILITY Halophiles coat themselves with a special protein layer which allows only certain levels of salt into the cell. This layer also helps to seal in water with the right level of saltiness.

EXTREME ENVIRONMENTS Ocean water is about 3.5% salt. The water in salt ponds and other halophilic environments is typically 5 to 10 times saltier than normal ocean water. This means that a gallon of water from some salt ponds contains as much as 2.5 pounds of dissolved salt!

EXTREME EXAMPLES These salt lovers live in places like the Great Salt Lake in Utah, Owens Lake in California, and the Dead Sea between Israel and Jordan. Halophilic bacteria also occasionally grow on saltine crackers.

Photo Credit: Bonneville Salt Flats - Utah Bureau of Land Management (front); *Dunaliella salina* - P. Lamers, Bioprocess Engineering Group, Wageningen University, The Netherlands (back). For more information visit http://astrobiology.nasa.gov/